

# AVIATION

*The Oldest American Aeronautical Magazine*

SEPTEMBER 13, 1926

Issued Weekly

PRICE 15 CENTS



Templehof Field, Berlin—Start of Night Flight to Moscow.

VOLUME  
XXI

## SPECIAL FEATURES

NUMBER  
11

S.A.E. HOLDS TWO DAY AERONAUTIC MEETING  
A FLYING TOUR OF EUROPE  
NATIONAL AIR RACES START IN PHILADELPHIA

GARDNER PUBLISHING CO., Inc.  
HIGHLAND, N. Y.

225 FOURTH AVENUE, NEW YORK

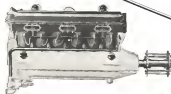
Entered as Second-Class Matter, Nov. 22, 1920, at the Post Office, at Highland, N. Y.  
under Act of March 3, 1879.

## Eleven Years of Packard Pioneering in Aircraft Motor Development 1915-1926

### Confidence

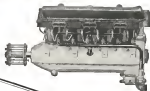
Packard has done much to stimulate that public confidence in the safety of aerial transportation without which the rapid development of aviation would have been impossible. That confidence can only be obtained through the use of thoroughly accredited, nationally known types of equipment. And the public knows that Packard Aircraft Engines have the same inherent power and stamina, the same dependability under all conditions, which have characterized all Packard products for more than a quarter of a century.

PACKARD MOTOR CAR COMPANY  
DETROIT - MICHIGAN



Packard Model 1590

Developed 400 H.P. at 3100 R.P.M.  
Weight 170 pounds—only 35 pounds per  
horse power. Bore 5.50", stroke 5.50",  
displacement 1700 cubic inches. Three  
types—direct vertical, radial, horizontal and  
vertical with two in one reduction gear



Packard Model 2590

Developed 575 H.P. at 3200  
R.P.M. Weight only 210 pounds  
with integral gear drive. Displacement 2100 cubic inches. Three  
types—direct vertical, radial, horizontal  
and two in one reduction gear. The most  
powerful aircraft motor yet so far  
in the world. Two types—direct  
vertical and vertical with two in  
one reduction gear

ASK  
THE MAN  
WHO OWNS ONE

SEPTEMBER 13, 1926

# AVIATION

VOL. XX NO. 11

Published every Monday

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GARDNER PUBLISHING COMPANY, Inc., Publishers

BUSINESS AND EDITORIAL OFFICES 325 FOLKMAN AVENUE, NEW YORK

CABLE ADDRESS: AVIADISC

PUBLICATION OFFICE

HIGHLAND, N. Y.

Subscription price: Four dollars per year. Canada, five dollars. Foreign, six dollars. Single copies, fifteen cents. Entered as second-class matter Nov. 22, 1925, at the Post Office at Highland, N. Y., under act of March 3, 1879.

## First Second Third

In the  
Ford  
Reliability  
Tour

SCINTILLA Aircraft Magnets furnished ignition for the Wright Whirlwind Engines that finished First, Second and Third in the Ford Reliability Airplane Tour.

MOST of the airplanes of late design to be seen at the National Air Races, Philadelphia, Sept. 4-11, are powered with engines equipped with SCINTILLA Aircraft Magnets.

Contractors to the U. S. Army and Navy.

SCINTILLA MAGNETO COMPANY, INC.

Factory and Offices SIDNEY, NEW YORK  
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GEORGE NEWBERG, MANAGER

# AVIATION

VINCENT E. CLARK

RALPH H. UHLEN

CONTRIBUTORS

VOL. XXI

SEPTEMBER 13, 1926

NO. 11

## More Pilots Know More About WRIGHT WHIRLWIND ENGINES than any other Aeronautical Engine now manufactured in America

That's why  
More Pilots fly them!



Stinson Detroiter, covered with a Wright Whirlwind 300  
H. P. engine. Other planes and other engines in various  
aircraft. These engines with their own characteristics  
and features. Manufactured by Wright Aero & Co.  
Patented, Northville, Michigan.

See also Bulletin No. 1

# WRIGHT

WRIGHT AERONAUTICAL CORPORATION

Patented, N. J., U. S. A.



### 70,000 Miles Without Overhaul?

**A**UTOMOBILE and airplane engines embody the same principles of design and operation. In operation the automobile engine is subjected to strains due to gear shifting, braking on the clutch, full clutch on high gear, sudden forward strains and drive shocks due to lumpy roads. The airplane engine runs under much better conditions in these respects but, on the whole, the automobile engine is much more reliable and needs less overhauling per mile of operation than the airplane engine. The reasons are twofold. First, that the airplane engine is very much lighter per horsepower and second that, during most of the running an automobile engine is only required to produce a small proportion of its horsepower. The latter factor is probably the most important in that it relieves the engine of much of its endurance towards its running loads which are comparatively low standard runs which can maintain their maximum speed during a twenty-four hour race without engine trouble.

Heavy weight does not necessarily mean strength. In the corresponding parts, at least, it may even weaken the engine. Good metal does not fail through fatigue unless it is stressed to very nearly its breaking point. The aeronautical engine designer has achieved his light weight largely through designing so that all parts are equally stressed in proportion to their strength. Like this we have shown in a well designed wing every part of an airplane engine should theoretically break at the same time. It has been the ability to approach this condition which has helped lighten the airplane engine.

In auto engine design, as matter how perfect, there is little safety factor at maximum horsepower, and, although the modern airplane engine gives remarkable results in sustained flying down at full power, running at it would give still more impressive results if plane designers decided to use only a small proportion of the maximum power for normal flying.

Comparisons between automobiles and airplanes are perhaps most amusing than valuable but the potential possibilities of an airplane engine which was as reliable as an automobile engine are very interesting and suggestive. The airplane was tested on mile for over 3,000 revolutions of the engine. The normal automobile takes 3,500 revolutions of the engine to cover the same distance. Yet a good automobile will run 30,000 miles without a thorough overhauling. If the airplane engine came up to the same standards of reliability as the automobile engine it could fly from 70,000 miles without overhaul and its total life would be two or three hundred thousand miles.

The comparison is perhaps not entirely fair due to the fact that automobile engines turn nearly twice as fast as their maximum power output but an airplane which only used a small proportion of its maximum power would undoubtedly achieve an amazing mileage.

### New Power Standards.

**I**N JUDGING the efficiency of an air transport plane it is very hard not to have the calculations on speed and on the pounds of useful load, sort of eye focus power. This seems to be the logical formula and has become rebbled in people's minds. Actually, however, this formula is becoming antiquated and a more complete calculation is needed. That is, a formula which will indicate the proportion of total power needed to carry the useful load at a given speed. In fact, in the old days, practically the full power of the engine was required to maintain flight and it was due to see the total power of the engine on the basis on which to judge the efficiency of the plane. The constant lightening of engines has changed this situation and has made possible a plane which will fly at only a small proportion of its maximum horsepower.

It is stated that the latest model air-craft engine built in this country develops over 500 hp for a weight of 750 lb. With such an engine, there are two possible lines of development. One is a great increase of the useful load carried per horsepower and the other is the designing of a machine which will not carry a larger load per total horsepower than the planes fitted with heavier engines but which is designed to fly at only a small proportion of its maximum horsepower. The modern tendency in Europe seems to be in this direction. The 500 hp Farman, for example, has seats for only eight passengers while the old D.H.54 although fitted with a Napier Lion engine of only 450 hp carried 16 passengers.

Statistically this would not seem to be progress but when other factors are considered the advantage are very great. Reserve power means speed reserve and, therefore, safety against stalling. It means ability to take off and climb quickly and high. It means ability to maintain schedule even against a head wind. It means, above all, it means longer life and greater reliability for the engine. To what extent this improvement is reasonable in commercial airplanes depends very largely upon the type of service in which the plane and engine are being employed.

To figure the need of a pleasure automobile we do not calculate the number of horsepower which the car can put into 'performance'. The modern light weight aircraft engine which carries reserve power available without great addition of dead weight makes the automobile standard applicable to airplanes. From the point of view of safety and even of economy the operation of aircraft must figure on a load and speed schedule which will allow an ample reserve of power. There is no use in reserve power if the operator figures on a load and speed schedule which calls for the maximum power output of the engine under the normal operating schedule. The new tendency made possible by light weight engines must be realized and taken advantage of by aircraft operators.

# A Flying Tour of Europe

By LESTER D. GARDNER

THE RAPIDLY expanding air transport lines of Europe have been the subject of momentary articles and studies during the last few years. Much has been written that has been the result of only superficial observation and has resulted in creating a very incorrect impression as to the United States. The public which has been led to believe that America was backward in this field has looked at the aviation people with a spirit of enmity and condemnation. Referring travelers from abroad have told of the ease and comfort with which they have made air trips from capital to capital and have asked why time-consciousness was not available here, in a country which has always led in all other lines of transportation. It was with this condition in mind that an air tour of Europe was made over practically all the main foreign air lines.

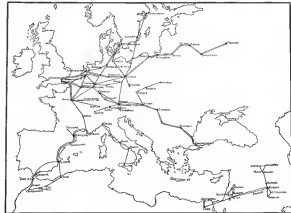
## Continuous Facilities

Exceptional facilities for the study of all phases of air transport in Europe were available. The Imperial Airways, the United K. L. M. Company, The Deutsche Luft Hansa, the KLM, the CIGNA, as well as the air transport companies in Switzerland, Poland, Czechoslovakia, Denmark, Sweden, Italy and Hungary had all extended courteous facilities to fly over their routes and make an opportunity is not to be passed by without an exceptional effort being made to fly over at least the main traffic lines.

In addition to the above, the British Air Ministry and the Royal Air Force had cordially given assurance that if non-drawn were favorable they would provide an opportunity for the inspection of the air route from Cairo to Baghdad over which the Imperial Airways will operate a service next year. As this territory has not as yet been opened to the general public, to fly over and to inspect the most historical and resource countries on the globe, the exceptional extent of the opportunities may be realized.

## Paris to London Via Imperial Airways

With such a prospect ahead, a start was made during the latter part of March and by April, the air voyage which was to continue almost steadily for four months was begun by a trip from London to Paris on a passenger plane equipped Hindover Page. The shortest itinerary of this route, Crystal Palace London and Le Bourget near Paris are of course the most interesting flying fields in Europe. Here may be seen remnants of all air transport types departing and arriving throughout the whole day. Every facility and necessary used in the operation of air traffic is used to expedite and safeguard the aircraft of the several different companies that use these fields as a hub for the reducing lines that extend throughout Europe.



Air routes covered by the European Air Tour of L. D. Gardner

At a later time a later aircraft will be given at the hour individually and also a closer study of the airports, but in the general summary only the most obvious and essential points will be mentioned. Much could be written about the beauty and scenic attractions of the various types that were made but these too must wait a more appropriate time. The significant and outstanding thing to be noted about all the cross-channel air routes is that the competing and diverse lines have the great disadvantages other than that of speed. One is that the crossing is often rough and in three in this particular is well established, but the other is that the night trip must be broken in the middle so that direct communication is not available. The result is that travelers have to spend a whole day in the Paris-London journey or have a whole night in a broken rest and can ride. This makes a three day trip by air seem a great saving of time as well as an opportunity to avoid the unpleasant features of the other routes. Aside from this, there are other reasons for the natural starting and terminal points of almost all continental travel. The traffic is therefore made up largely of tourists, who, with the vibrant business men, give these lines the largest volume of passengers by air of any lines in Europe. The English maintain that it flows over a canal of the most beautiful in the world while the chills shills that exist. It is as if the sea ran much along the north coast of England from Dover and Folkestone gave the arriving or departing traveler a view that is never forgot. The French province that is seen from the air from Calais, after a half hour crossing, are completely different from the English air views. With so many of importance are seen, the land and the houses are so close beside that they give a learned who has never seen France from the air a new impression of the life and civilization of the French people.

## Paris-London Via Air Union

Crossing in the other direction the Air Union over France, Germany, two engaged planes. These reliable old types have made air transport history. They have flown this route steadily in the Air Union and there with the Imperial Airways the

cross-channel traffic. Connections are made at Paris with the Air Union has continued to Agona and Marston while the Imperial Airways has regularly in Berlin, Amsterdam.

The latter line is at the greatest extent from a historical standpoint as it passes over the western part of the battle-field scene. Calais and Belgium are seen from the air as well as a distant view of the Alps before reaching the remarkably prosperous and often narrow lanes, Berlin, from which all the direct connection and late distance can easily be reached. This means that from London and Paris affords the traveler a very convenient and time saving means of reaching the program of Europe.

## London to Cologne

Starting from Cologne, the Imperial Airways who operate a line to Cologne by way of Brussels. This is one of the most advanced air routes of Europe, as it tips the reducing line at Belgium and Germany. Cologne is one of the largest and most important of central Europe and traffic for London from the enormous productive Ruhr district is noted through Cologne. From a remote standpoint, the trip may compare to it. After crossing the Cleared the battle-field coast of Belgium is followed and almost immediately the whole battle-field region of the early war period is crossed. Brussels, Ypres, Charleroi are seen before Brussels, the main station, Paris, is reached. Here the air traveler sees a city to the last advantage, as the machine gives a very picturesque line progress from the air. The airport with the terminal buildings of the Belgian Belgian Air Transport Company, the military language and aircraft manufacturing shop are an impressive example of the advantages of permanent construction at airfields.

Leaving Brussels, the route to Cologne passes Trier and the battle field territory of the earlier days of the War. Arriving at Cologne, the most modern type of an air terminal is to be seen in operation. The office building is new and contains the various offices of passenger staffs as well as a thoroughly modern restaurant. In front of this building is a concrete apron where all airplanes take on and discharge their passengers. As soon as this is done the airplane flies



Le Bourget Airport, the airport of Paris





passenger seat. After Helen Roth, J. Russell Brown, E. N. Mortland, Theodore Sorenson and R. A. Frobenius. Other arrivals were W. H. McVey, of the Carter Flying Service, in a Cessna Lark driven by Gary Jones and Mrs. Frank Russell. A. F. Carpenter, also of the Carter Flying Service, arrived in a Cessna Quail with his wife, both these two arrivals coming from Griffin City.

#### Parachute Contest

The proceedings of Saturday closed with Round Event B, the National Championship in the two-for-all Parachute contest. This event was open to both military or civilian contestants and continued throughout the week. The object was to demonstrate precision landing with a parachute and each contestant was limited to one jump per day. The champion at the end of the race was to be the one landing closest to a predetermined point on the field. All jumps were made from a maximum altitude of 1500 ft. There were three prizes to be awarded at the end of the week, the first being \$250. In addition, there was a prize of \$25 daily for the contestant landing the shortest distance from the marker in the daily trials. On Saturday, this prize was won by W. B. Reed who landed 89 ft. from the marker.

#### The Mulvihill Model Tugboat

This closed the race with Monday, Sept. 9, Labor Day, where approximately 7,000 people turned out at Model Farm Field. Undoubtedly the expected arrival of the Los Angeles from Ladbroke, which was scheduled for Monday, attracted

many, but the weather conditions proved such a fight to be impossible. Competitively few spectators had arrived when the model race for the Mulvihill Model Tugboat was being run at 10, the long scheduled start as early as 9:30 A. M. There were twenty-two models entered although one model did not actually appear. Some entrants brought more than one model. The contest was won by Jack Lonschur, age 15 years, from Detroit, Mich., with a model which remained in the air for 3 min. 31 1/2 sec. Joseph Lantz was second with a duration of 2 min. 2 2/5 sec. Thus, in spite of the fact that the derision lines were far below records set in previous years, the Mulvihill Trophy and \$200 went to Lonschur, while Lantz won the second prize of \$100. There were eight cash prizes in all.

#### The R. H. T. Trophy

With the exception of a certain amount of demonstration and exhibition flying, activities were at a standstill until 2:50 P. M. when Event No. 4, which was a match race, was the R. H. T. Trophy, presented by the R. H. T. Corporation, competition of various light and heavy. This was for machines with a total engine displacement not in excess of 114 cc. in and was over a distance of 36 miles, three laps of the 12 mile course. Entries were in teams of three planes each and the race was limited to four teams, red, white, black and yellow.

The teams were			
Red	Four Zepps	Three 4	Four 4
White	Two Thrush	Three 4	Two 4
Black	Two Thrush	Two 4	Two 4



The home plot at Model Farm Field

*A few of our Ryan M-1's are in use under various names in the Pacific, Transportation and Commercial Mail Routes.*

## A Valsparred Thoroughbred!

Faster in the world to succeed in operating transportation lines without subsidy, Ryan Airlines, Incorporated, have recently achieved another triumph. Ryan M-1, their new light-weight monoplane, is attracting widespread attention by its remarkable performance and almost instant response to control.

This new record-breaker, powered by a Wright Whirlwind Engine and equally suitable for pleasure or light commercial service, is *Valsparred*, of course.

For Valspar long have demonstrated an accuracy in withstanding sharp climate changes, air pressure and instant speeds, as well as all the minor incidents of service—without cracking, peeling, blistering or ever turning when!

**VALENTINE'S VALSPAR**  
The Name at Your Next Tube Works





## S.A.E. Holds Two Day Aeronautic Meeting

*Aeronautic Banquet Hears Notable Speakers.*

THE ANNUAL Aeronautic Meeting of the Society of Automotive Engineers was held in Philadelphia, at the Bellevue-Stratford Hotel, on Sept. 2 and 3, when, during three technical sessions, many papers on aeronautical subjects of vital interest at this time were read by men well suited to discuss their respective topics. The meeting terminated with an inspection trip to the Naval Aircraft Factory where a speaker at instance at great interest was an exhibit. Undoubtedly the high spot of the two-day meeting was the Aeronautic Banquet in the ballroom of the Bellevue-Stratford on the evening of Sept. 2. The dinner was very well attended and was full of lively remarks contributed by the Pennsylvania Section of the S.A.E. Among the guests were, Senator Thomas Baughman (R) from Connecticut, the Hon. Truman F. Devism, Assistant Secretary of War for Aviation, the Hon. Edward P. Warren, Assistant Secretary of the Navy for Aeronautics, and the Hon. William F. McCord, Jr., Assistant Secretary of Commerce in charge of the Bureau of Civil Aviation. Other at the great table were, Brig. Gen. William E. Gilmore, Air Corps; Col. Benjamin Foskes, Air Corps; Dr. Ralph Lewis, of the S.A.C., Wing Command; T. D. Matthews, British Air Attaché in Washington; Frank H. Russell, Vice president of the Curtiss Company; Dr. Burgess, of the Bureau of Standards; Capt. George C. Westervelt, manager of the Naval Aircraft Factory, Johnson; II. J. Case, D.N. retired; Maj. Howard F. White, and Godfrey L. Cabot, president of the S.A.A. Greater Learning, president of the Learning Associated Engineering Corp., was master of ceremonies.

### Dr. Lewis on the S.A.C.A.

After the official welcome had been given by Mr. Devism, representing Mayor Fawcett Kendrick of Philadelphia, Dr. Lewis spoke for a few minutes on the work of the National Advisory Committee for Aeronautics and the value of research in aeronautical development. The audience of Dr. Lewis in discussing the S.A.C.A. in so superficial a manner was very apparent to all who knew the tremendous amount of money which he has put into building up the Commission and converting its activities to the extent which has enabled it to be so largely instrumental in placing America so far to the fore in the world on aeronautical work.



The Hon. Truman F. Devism  
Asst. Sec. of War for Aviation



The Hon. Edward P. Warren  
Asst. Sec. of the Navy for Aeronautics



The Hon. William F. McCord, Jr.  
Asst. Sec. of Commerce for Aviation

Mr. Learning then introduced Senator Baughman as a certain's greatest friend in Congress, a statement which was obviously upheld by all those present. Senator Baughman then delivered one of the most inspiring, interesting and instructive speeches ever voiced on the general subject of aviation. He emphasized the important fact that while the last Congress had spent a considerable amount of time on the subject of aviation legislation, both service and civil aviation had never become a party issue, both sides of the "island" being equally anxious to recognize in the greatest possible extent in improving the position of aeronautics in the country and encouraging the greatest possible development. Speaking on the recent bill, which has been passed by Congress, Senator Baughman emphasized the fact that, while five-year programs had been authorized for both the Army and the Navy air services, many faced state for the carrying out of these programs, the actual appropriations of these means had not been authorized. He pointed out that authorizing certain expenditures was very different from appropriating the money for such expenditures, a point which many had overlooked. Senator Baughman said that Congress had merely authorized an appropriation and the next step would be to get the Committee of Appropriations to report the appropriations to Congress, whereupon the latter would actually appropriate that money. In fact, what Senator Baughman had to say may well be mentioned as indicative of trouble being experienced in actually getting the necessary means for the carrying out of the five-year programs.

Continuing, a plan for the reliable and careful education of the public to the possibilities and limitations of aviation and a clear understanding of what is necessary to and what may be expected from, the development of aeronautical aviation, was voiced by Senator Baughman. He emphasized that it was of the greatest importance that the daily newspapers follow carefully the problems of aeronautical development and watch that no sensible means is provided which men do a colossal amount of harm in development at this time. The public must be made "air-wise" and must be told the truth about aviation, both as regards its possibilities and its limitations. There are enthusiasts of aviation who mislead the public to believe facts which are not true and then, when aviation fails to live up to the exaggerated claims of these enthusiasts, the

## A PREDICTION REALIZED



## The New Curtiss "FALCON"

**DURING** the past several months, the first group of Curtiss "Falcons" to be delivered to the Army have been undergoing service tests in the hands of Air Corps pilots.

As was foreshadowed when the "Falcon" won first prize in the Observation Competition at McCook Field, this new observation airplane has rapidly gained favor with the flying personnel, who have found it much faster and more maneuverable than the present service type.

Powered with either the Curtiss D-12 or the Liberty motor, excellent from a maintenance standpoint; with a truly remarkable performance, the "Falcon" fulfills its advance indications of being the finest observation type in service today - a worthy "big brother" to the Curtiss "Hawk", the standard service pursuit plane of the U. S. Services.

THE CURTISS AEROPLANE  
GARDEN CITY, N. Y.

*Curtiss*

& MOTOR COMPANY, INC.  
BUFFALO, N. Y.





at Night". Mr. Smith has had a great deal of experience in flying the mail on the New York-Campo route and his remarks on the value of certain instruments and the methods of sight and fog navigation were of the greatest interest and value to all fortunate enough to hear him. It is hoped that it will be possible to publish some of his paper talks, a synopsis of the entire paper also.

The next paper was on "Lighting Equipment for Airports, Airports and Airports" by C. T. Anderson, of the S.B.T. Corporation, and H. E. Schuler, of the General Electric Company. This paper was extremely very valuable because of the present interest in airport equipment. The session closed with a paper by Capt. W. H. Murphy, Army Air Corps, on "The Stationing and Lighting Signalization System". This paper was presented by Louis L. M. Wolfe, Army Air Corps, and was a very complete discussion on the subject of the radio beacon and its development by the Engineering Division of the Army Air Corps at McCook Field.

#### To the Naval Aircraft Factory

The Aeronautics Division closed the afternoon with a visit to the Naval Aircraft Factory when visitors were given the opportunity of seeing many of the interesting developments which are going on there, including that of the Navy's new engine. Undoubtedly one of the most interesting demonstrations given by the Factory was that of the outgassing of a Vought VE-1 airplane. This was witnessed at close range by the visitors. The visit, which was extremely very greatly enjoyed and appreciated, was arranged through the courtesy of the Navy Department and Capt. George C. Waterman, manager of the Naval Aircraft Factory.

The Society of Aeronautics Engineers is to be congratulated on arranging to enhance and successful an aeronautics meeting.

#### Radio Aids to Air Navigation

One of the many phases of the civil aeronautics program is progress in the Department of Commerce under the Hon. William P. MacCubbin, its Assistant Secretary, is the work being done by the Bureau of Standards on the development of radio aids to navigation. Radio has already proved itself to be one of the most important aids to navigation and it is hoped that it will be possible to publish some of his paper talks, a synopsis of the entire paper also.

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built to hold the antenna system. This tower will be painted a brilliant yellow so that it may be readily seen by pilots entering into the field. It is made of wood so that it will not reflect the director properties of the antenna system. A small wooden house is built directly under the tower in which will be located the beacon apparatus. This apparatus consists of a generator unit which makes possible the operation of the dash rods of the rotating signal at any desired angle. The radio transmitting apparatus which operates on a frequency of 200 kilocycles, the frequency assigned for civil aviation purposes, consists of two 200 watt tubes with 300 cycle supply to the plates. The antenna system consists of two single turn, coil antennas transverse in shape with the wires at the top of the tower. These antennas have a base 300 ft. long. They are mounted at an angle of 90 deg. and held taut by a 100 lb. weight on each antenna. An antenna has been assigned to the Bureau of Standards for use in its development work on radio aids to air navigation. Louis F. W. Jackson of the Army Air Corps has been selected to pilot the plane.

Improvements on the present beacon system. It is important that the best possible type of beacon be worked out before any number are installed on the various air routes. Research work is now in progress at the radio laboratory of the Bureau of Standards on a number of features, which will improve the operation of the beacon. Among these is a new type of rotating switch and much smaller type of generator.

A visual indicator. A method is being developed by means of which a pilot may determine his course by observing a pointer. This method will be used in conjunction with the radio beacon by installing both types of receiving apparatus on the airplane and trying them out under various conditions of atmospheric disturbances, ground waves, etc.

The marker beacon. The source of the radio waves type of signal beacon, a pilot may hold to a definite course but his position along the course may be unknown, especially under bad weather conditions when the ground is not visible. A low power marker beacon is being developed to provide a definite radio signal at approximately every 25 miles along the course. These signals will indicate the position of a plane flying over them just as a marker beacon has location by the character and pitch of the signals sent out from a light house.

Communication Systems. One of the most important types of information that a pilot should have during flight is the change in weather conditions along the route he is flying and at the field where he is to land. If these conditions become poor it should be possible to tell him where he should go to find a field where a safe landing may be made. The radio telephone or telegraph often the only means of getting transmitting apparatus to be used at the airports and on the airplane.



Three Purpose Currier CS planes of the Navy

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Buffalo, New York

## Nicholas-Beazley Produces New Commercial Airplane

The Standard J-1 OX-5 Commercial Airplane.

THE NICHOLAS-BEAZLEY Airplane and Motor Company, of Marshall, Mo., has one of the leading aircraft manufacturing and supply firms in the Middle West, has recently produced a new commercial airplane known as the Nicholas-Beazley Standard J-1. The machine, which is a three-seater plane, is built up of Standard J-1 material redesigned by the Nicholas-Beazley Company for the special requirements of the plane. As a result of the new which has been put into its production, the machine, although built out of non-production material, is very reliable and thoroughly sound and, of course, it has been possible to keep the price down to a minimum.

### Constructional Details

Structurally, as already mentioned, the machine is built up of Standard J-1 material. The wings consist of four J-1 lower wings with the pronounced swept-back construction, while the landing gear, also primarily a J-1 part, has been redesigned and considerably shortened. The entire structure has been made considerably lighter, maintaining adequate strength throughout. The empty weight of the machine is 1275 lb.

The plane is a tractor biplane with engines arranged at the upper wings only. The position of the upper wing is such that an excellent view shore is available to the pilot while he also has a good view for landing. The undercarriage, as will be seen from the photographs, is of normal conventional type with three wheels. The finish of the plane is with two coats of dark dope and four coats of aluminum pigmented dope with no varnish at all.

### Specifications and Performance

One of the interesting features of the plane is the ease with which it can be transformed into either a passenger carrying plane or a training machine with dual control. The dual control system is such that it can be controlled as to be out in but a few minutes.



A side view of the Nicholas-Beazley Standard J-1 commercial airplane (Curtis OX-5)

The Nicholas-Beazley Standard J-1 is equipped with the Curtis OX-5, the Curtiss OX-5-A or the 150 hp. Hispano-Suiza engine. The general details of the OX-5 plane and, in the absence of official flight tests, the manufacturer's figure of performance, are as follows:

Wing, swept back and lower wings	31 ft. 6 in.
Span	31
Length	25
Wing chord	6 ft. 6 in.
Wing area	200 sq. ft.
Wing loading	12.5 lb. per sq. ft.
Wing with OX-5 engine in flight	1275 lb.
Wing with OX-5 engine in flight, loaded	1475 lb.
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The following is the performance with the OX-5 engine	
Maximum speed	40 m.p.h.
Cruising speed	35 m.p.h.
Stalling speed	20 m.p.h.
Wing in 10 min.	10 m.p.h.
Approach, radius of operation	10 m.p.h.
Climb	10 m.p.h.

It is extremely interesting to learn that, in spite of the fact that this plane has only been in production for the past eight weeks the Nicholas-Beazley Company is receiving orders from all over the country. The plane has already become very popular, if one is to go by the many letters and telegrams of appreciation which the company has received.

### A Traveling Salesman

The company has just sent one of its pilots and salesman, Charles Pender, out on the road, or should one say, "in the air", with one of the new Standard J-1 planes. He is equipped with a complete line of samples of all non-production engine parts which the Nicholas-Beazley firm is producing, including dopes, dials, etc., and Mr. Pender will fly from coast to coast and from North to South and will be dealers in every city for the purpose of demonstrating the plane and exhibiting the material and parts produced by his company.

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PAGE 15 OF OUR CATALOG

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Another view of the Nicholas-Doolittle Standard J-1 (Ryan M-1)

While Mr. Peoples will devote a great part of his attention to the airplane trade, he will also demonstrate his retail purposes. The scope planned for Mr. Peoples here is so large as to make the undertaking somewhat novel in the aircraft manufacturing trade and there is no doubt that his visits at the different cities will be greeted with considerable interest.

#### United States Civil Service Examination

The United States Civil Service Commission announces an open competitive examination for this position of Associate Instrument Engineer.

Applications must be on file at Washington, D. C., not later than Sept. 28. The examination is to fill a vacancy in the Air Service, McCook Field, Dayton, O., vacancies in the Bureau of Standards, Department of Commerce, Washington, D. C., and vacancies in positions requiring similar qualifications.

The entrance salary for this position in the District of Columbia is \$2,600 a year. After the probationary period required by the civil service act and when advancement is given without material change in duties may be made to higher rates within the pay range for the grade, up to a maximum of \$3,600 a year. Promotions to higher grades may be made in accordance with the civil service rules at vacation time. For the Civil Service the salary will be approximately the same.

The duties are to design and develop and, arranged in instruments, to assemble these large units, to make calculations relative to construction and operation of those designed by others, and to consult with others regarding the application of engineering principles to construction of such instruments. The duties will include work on instruments for both light-thermo-air and heavier-than-air aircraft.

Competitors will not be required to accept for evaluation at any place, but will be rated on their education, training and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examinations at the post office or consular office in any city.

#### Aircraft Exports

The Department of Commerce, Bureau of Foreign and Domestic Commerce, Washington, announces domestic exports of aircraft and engines from the United States, for May and June, as follows:

Countries	MAY		JUNE	
	For aircraft	Aircraft and engines	For aircraft	Aircraft and engines
Canada	—	—	—	—
France	54	30,000	—	—
Germany	50	6,814	—	—
United Kingdom	9	20,000	—	—
Canada	9	13,000	—	—
Sweden	—	—	—	—
Switzerland	—	—	—	—
Spain	—	—	—	—
Italy	—	—	—	—
Japan	—	—	—	—
China	—	—	—	—
Argentina	—	—	—	—
U. S. Island	—	—	—	—
Total	122	70,000	0	0

Countries	JUNE		JULY	
	For aircraft	Aircraft and engines	For aircraft	Aircraft and engines
Canada	—	—	—	—
France	13	10,000	—	—
United Kingdom	—	—	—	—
Canada	20	6,500	—	—
Sweden	—	—	—	—
Switzerland	—	—	—	—
Spain	—	—	—	—
Italy	—	—	—	—
China	—	—	—	—
Japan	—	—	—	—
U. S. Island	—	—	—	—
Total	33	16,500	0	0



A view up some of the planes of the Nicholas-Doolittle Aircraft and Motor Co. of Marshall, Mo.



## RYAN M-1

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At the National Mile High Air Meet, Denver, Colorado, it won every event for airplanes in its class.

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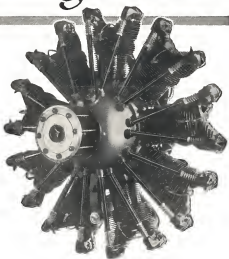




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